
A New Species of *Poupartia* (Anacardiaceae) from Madagascar

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ABSTRACT. *Poupartia orientalis* Capuron ex A. Randrianasolo & J. S. Miller is described from Madagascar, and its distribution, habitat, and phenology are discussed. *Poupartia orientalis* is similar to *P. silvatica* H. Perrier but is distinct in its evergreen habit and subcoriaceous leaflets with fewer and less prominent tertiary veins.

Poupartia Commerson is a genus presently considered to comprise seven species restricted to Madagascar, the Mascarenes, and the Seychelles. Perrier de la Bâthie (1946) recognized five species in Madagascar, but *Poupartia caffra* (Sonder) H. Perrier was transferred to *Sclerocarya* Hochstetter by Kokwaro (1986), and *P. gummifera* Sprague, a species that occurs in Madagascar and Seychelle Islands, was transferred to *Operculicarya* H. Perrier by Capuron (1975). More recently, Friedmann (1994) accepted *P. gummifera* in his treatment of Anacardiaceae of the Seychelles over *Operculicarya gummifera* (H. Perrier) Capuron, a decision agreeing with Egli's (1995) revision that excluded *O. gummifera* from his concept of *Operculicarya*. Three other species of *Poupartia* are endemic to the Mascarene Islands (Friedmann, 1997), bringing to seven the total number of species in this genus prior to this publication. Latin American and Asian taxa previously considered to belong to *Poupartia* have all been transferred to other genera (Hill, 1937; Metcalf, 1931; Cheng & Ming, 1980). A forthcoming revision of *Poupartia* will provide additional information about *P. gummifera* as well as a key for identifying all known species (Randrianasolo & J. S. Miller, in prep.).

During preparation of a revision of Anacardiaceae for Madagascar, it became apparent that a group of specimens collected in the northeastern and mid-eastern regions of the island represents an undescribed species. Although no specimens of male individuals were observed, study of the female flowers and fruits indicates that this undescribed species belongs to *Poupartia*.

Poupartia orientalis Capuron ex A. Randrianasolo & J. S. Miller, sp. nov. TYPE: Madagascar. Toamasina (Est): forêt sublittorale, sur sables, au Sud de Soanieran'Ivongo (P.K. 154), 27 Nov. 1962 (fl and yfr), SF 22124 Capuron (holotype, P; isotype, MO). Figure 1.

Arbor usque ad 15–20 m alta. Folia persistentia, alterna; foliolis 7 ad 13, oppositis vel suboppositis, terminali obovato, lateralibus inaequaliter ovatis, 3.5–9.0 cm longis, apice acuminatis, base inaequaliter obtusis, supra et infra glabratis; petiolulis 3–4 mm longis. Inflorescentia axillaris, racemosa, 5–7 cm longa; pedicellis 4–5 mm longis. Flores feminei 5-meri; lobulis corollinis reflexis, ovatis, 2.5–3.5 mm longis; stylis 5. Fructus drupaceus, late ovoideus ad subglobosum, 1.5–2 cm longus, 5-locularis, 5 operculatus.

Evergreen trees, 15–20 m tall; young twigs generally glabrous and with lenticels, rarely with sparse hairs at the tips of branches or branchlets. Leaves alternate, often clustered at the end of branches or branchlets, imparipinnately compound, 15–30 cm long; leaflets 7 to 13, opposite or subopposite, subcoriaceous, lateral leaflets asymmetrically ovate and the terminal ones obovate, 3.5–9 cm long, 1.5–4 cm wide, the apex long acuminate, the base unequally obtuse, sometimes very shortly decurrent, the margin entire and slightly revolute, the adaxial surface pubescent when young, almost glabrous when older except for a few hairs left on the midvein and on the margin at the leaflet base, abaxial surface pubescent when young, glabrous when mature, venation pinnate, generally brochidromous but sometimes basal lateral veins reticulodromous, the midvein prominent on the lower surface, the lateral veins arcuate, very slightly prominent on the lower surface, the tertiary veins very few, not prominent, ramified and admedial, sometimes connecting two adjacent lateral veins; petiolule of terminal leaflet 5–30 mm long; petiolules of lateral leaflets 3–4 mm long, pubescent or glabrescent. Male inflorescence and flowers unknown. Female inflorescence axillary, racemose, 5–7 cm long, pubescent, sometimes glabrous; bracts very caducous, not observed. Flowers generally 5-merous, unisexual, small, ca. 3 mm long; pedicels 4–5 mm long, scabrous or pubescent; calyx lobes deltate, ca. 1 mm long and ca. 1 mm wide, pubescent, imbricate; corolla lobes reflexed at anthesis, ovate, 2.5–3.5 mm long, ca. 2 mm wide, glabrous, yellow or pale yellow, imbricate. Staminodes in 2 whorls of 5; filaments 1–1.5 mm long (episepalous ones longer than epipetalous), straight and broadened at the base, inserted basally on the outer surface of the disc, glabrous, white; anthers ovate, ca.

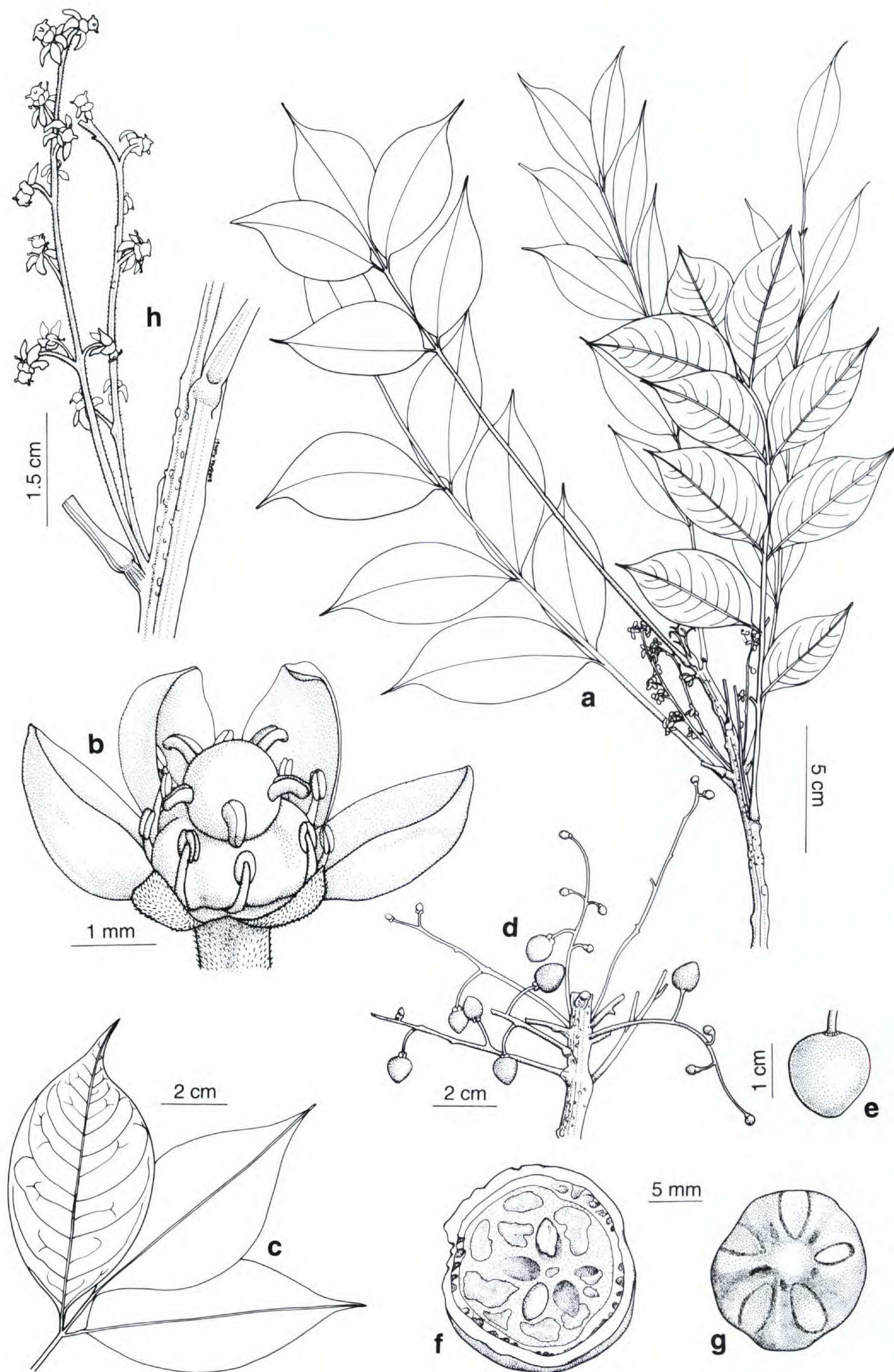


Figure 1. *Poupartia orientalis* Capuron ex A. Randrianasolo & J. S. Miller. —a. Branch with inflorescences. —b. Female flower with one petal removed. —c. Leaflet tertiary veins. —d. Infructescence. —e. Fruit. —f. Cross section of fruit. —g. Polar view of endocarp opercula. —h. Inflorescence branches. Drawn from the type.

0.3 mm long, yellow, dorsifixed, introrse, dehiscent by longitudinal slits, sterile and glabrous; disc fleshy and crater-shaped, ca. 1.5 mm diam. and ca. 0.5 mm thick; ovary very widely ovate to subglobose, 1–1.2 mm long, ca. 1 mm broad, glabrous, 5-locular of which 4 are fertile (only two ovules develop, the rest abort), ovules anatropous, with apical placentation; styles 5, distinct and short, 0.2–0.5 mm long, latero-apical, around the top, with five capitate stigmas. Fruits drupaceous, very widely ovoid to subglobose, 1.5–2 cm long, 1.3–2 cm broad, glabrous; exocarp thin, mesocarp thin and resinous, endocarp bony and thick, with 5 opercules.

Habitat and distribution. *Poupartia orientalis* is known from northeastern and mid-eastern littoral and sublittoral wet forests of Madagascar, where it grows on sandy or lateritic soils.

Phenology. This species flowers in October–November and fruits from December through June.

Vernacular name. Sakoanala, Sakoala.

Discussion. In previous publications, species of *Poupartia* have been described either as polygamodioecious (Perrier de la Bâthie, 1946) or dioecious (Friedmann, 1994, 1997). Our observations of specimens of the Malagasy species included in this genus confirm that male and female flowers are consistently found on separate individuals. In addition, the male flowers always display a reduced gynoecium with the fertile stamens, and female flowers have reduced and sterile stamens or staminodes with the functional gynoecium. Sometimes female flowers seem to have regular-sized stamens, but the anthers of these stamens lack pollen grains and are sterile and non-functional. These observations suggest that *Poupartia* species are dioecious, and although *Poupartia orientalis* is known only from specimens with female flowers, it appears not to be an exception.

Poupartia orientalis and *P. chapelieri* (Guillumin) H. Perrier, both from eastern Madagascar, are the only two evergreen species of *Poupartia* in Madagascar. However, despite their overlapping distribution and ecological similarity, numerous characters distinguish these two species from one another. *Poupartia orientalis* has 5-locular fruits with five opercules (Fig. 1) compared with the unilocular, but bi-operculate fruits of *P. chapelieri*. In addition, *P. orientalis* has pedicels that are 4–5 mm long and petals that are 2.5–3.5 mm long, as compared to the nearly sessile and smaller flowers of *P. chapelieri*, which have pedicels 0.3–0.5 mm long and petals ca. 2 mm long. *Poupartia silvatica* H.

Perrier is perhaps the species most easily confused with *P. orientalis*, as it has a similar inflorescence and flower size. However, *P. silvatica* differs in being deciduous, in having more membranaceous leaflets with more ramified, closely spaced tertiary veins, and in occurring only in the northwest and west of Madagascar.

René Capuron, a French botanist working in Madagascar, was the first person to recognize that specimens collected from northeast Madagascar probably represented a new species, and he annotated the specimens as such. However, he did not publish the name *Poupartia orientalis*; we honor him and his contributions to the Malagasy flora by accepting the name that he proposed.

Paratypes. MADAGASCAR. **Antsiranana:** Antalaha Est (Nord), table basaltique d'Ambanitazana, près d'Andrapengy (au N. d'Antalaha), 14°40'S, 50°12'E, 11 June 1967, *SF* 27731 Capuron (P). **Toamasina:** Brickaville, Ambodikijy Loharindava, 18°47'30"S, 48°40'E, 15 June 1954, *SF* 10039 (P); Maroantsetra, Farankaraina, 15°25'S, 49°52'E, 12 Feb. 1955, *SF* 12915 (MO, P, 2 sheets); Maroantsetra, Jardin Botanique n° 17, 15°26'S, 49°45'E, 12 Dec. 1952, *SF* 7238 (P).

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